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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,307	06/25/2003	Tetsujiro Kondo	450100-04610	3064

7590 10/05/2005

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EXAMINER	
SHANKAR, VIJAY	
ART UNIT	**PAPER NUMBER**
2673	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,307	KONDO ET AL.	
	Examiner	Art Unit	
	VIJAY SHANKAR	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 6, 11-22* is/are rejected.

7)☒ Claim(s) *4,5 and 7-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6, and 11-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hotto (5,831,588).

Regarding Claims 1, 14, 17, 20, Hotto ('588) teaches an active matrix display device comprising: a panel on which pixels are arranged in a matrix pattern (Figs.2-3); a scanning circuit for sequentially selecting pixels on the panel in units of rows (Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- Col.10, line 40); and a signal circuit which sequentially receives pieces of video data, each including a status part indicating need/no need for rewriting a pixel and a main data part including video data to be written into the pixel, and which writes corresponding video data into pixels which have been determined to be rewritten based on the status part among the selected pixels, while skipping the other pixels. (Summary; Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- Col.10, line 40; Fig.8; Col.19, line 9- Col.21, line 30).

Regarding Claim 2, Hotto teaches the active matrix display device wherein, while the status part of the video data indicates that rewrite is not to be performed, the number of pixels to be skipped, instead of the video data, is written into the main data part. (Fig.8; Col.19, line 9- Col.20, line 30).

Regarding Claims 3, 15, 18, 21, Hotto teaches an active matrix display device comprising: a pixel array unit including pixels which are arranged in a matrix pattern (Figs.2-3); a scanning circuit for sequentially selecting pixels in units of rows (Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- Col.10, line 40); and a signal circuit which receives a video signal including serial dot data corresponding to each

pixel and which writes the dot data into the selected pixels, wherein the signal circuit receives a video signal which includes dot data corresponding to pixels to be rewritten but does not include dot data corresponding to pixels not to be rewritten and which includes skip data defining a skip amount, and the signal circuit sequentially processes the dot data and the skip data so as to write corresponding dot data into pixels to be rewritten while skipping pixels not to be rewritten in accordance with the skip amount. (Summary; Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- Col.10, line 40; Fig.8; Col.19, line 9- Col.21, line 30).

Regarding Claim 6, Hotto teaches the active matrix display device wherein the signal circuit receives a video signal including row skip data which defines a skip amount in units of rows, and performs writing of dot data while skipping pixels in units of rows based on the row skip data. (Fig.8; Col.19, line 9- Col.20, line 35).

Regarding Claims 11, 16, 19, 22, Hotto teaches the signal processing device comprising: differential detecting means for detecting and outputting a differential value between the video data of a current frame corresponding to a target pixel and the video data of the previous frame (Col.2, line 59- Col.3, line 43; Col.9, line 10- 65; Fig.8; Col.19, line 9- Col.21, line 30); determining means for determining whether or not the differential value output from the differential detecting means is equal to or exceeds a predetermined threshold value (Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- 40; Fig.8; Col.19, line 32-67); and output-data generating means which generates output

data based on status data indicating that a pixel is to be rewritten and the video data of the current frame when the determining means determines that the differential value is equal to or exceeds the predetermined threshold value and which generates output data based on status data indicating that a pixel is not to be rewritten and a skip amount defining the number of pixels to be skipped when the differential value is less than the predetermined threshold value.(Summary; Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- Col.10, line 40; Fig.8; Col.19, line 9- Col.21, line 30).

Regarding Claim 12, Hotto teaches the signal processing device further comprising threshold-value setting means for setting the threshold value. (Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- 40; Fig.8; Col.19, line 32-67).

Regarding Claim 13, Hotto teaches the signal processing device wherein the threshold-value setting means detects the dynamic range of the video signal so as to set the threshold value based on the detected dynamic range. (Figs.3; Col.2, line 59- Col.3, line 43; Col.9, line 10- 40; Fig.8; Col.19, line 32-67).

Allowable Subject Matter

5. Claims 4-5 and 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance: The prior arts fails to teach the active matrix display device wherein the signal circuit receives a video signal including dot data and skip data, both data having the same format including a status part and a data part, the signal circuit determines whether the video signal includes the dot data or the skip data, and when it is determined that the video signal includes the skip data, the signal circuit obtains a skip amount indicating the number of pixels to be skipped from the data part of the skip data, and when it is determined that the video signal includes the dot data, the signal circuit extracts luminance information of a pixel to be rewritten from the data part of the dot data as claimed in Claim 4.

Also, the prior arts fails to teach the active matrix display device wherein the signal circuit mixes, at a predetermined ratio, frames to which a partial rewrite operation for partially rewriting the pixels arranged in a matrix pattern is performed by processing the video signal including the dot data and the skip data and frames to which an entire rewrite operation for entirely rewriting the pixels arranged in a matrix pattern is performed by processing the video signal including the dot data as claimed in Claim 7.

Also, the prior arts fails to teach the active matrix display device further comprising a signal processing circuit for supplying the video signal including the dot data and the skip data to the signal circuit, the signal processing circuit comprising: differential detecting means for detecting and outputting a differential value between the video data of a current frame corresponding to a target pixel and the video data of the previous frame; determining means for determining whether or not the differential value output from the differential detecting means is equal to or exceeds a predetermined threshold value; and output-data generating means which generates dot data based on status data indicating that a pixel is to be rewritten and the video data of the current frame when the determining means determines that the differential value is equal to or exceeds the predetermined threshold value and which generates skip data based on status data indicating that a pixel is not to be rewritten and a skip amount defining the number of pixels to be skipped when the differential value is less than the predetermined threshold value as claimed in Claim 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hotto teaches the display having pixel status.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIJAY SHANKAR whose telephone number is (571) 272-7682. The examiner can normally be reached on M-F 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BIPIN SHALWALA can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VIJAY SHANKAR
Primary Examiner
Art Unit 2673

VS